# Zero Beat Hampden County Radio Association, Inc.

Our 44th ARRL affiliated year Special Service Club

Serving Greater Springfield, MA

#### **President's Comments**

Happy 1991!

I just got used to writing 1990 and now it's changed again. I predict this is going to be a spectacular year. It has been 110 years since we last had a year with inverted first and last double digits: 1881. The next inverted double digit year will occur in 2002, or 11 years away. Maybe that means we will jam 99 extra years of technology into the next 11. Oh well, enough of this nonsense. Everyone knows that January 1 is the time for new year's resolutions. I know most of you have already achieved perfection but for those who haven't, maybe some of my radio resolutions will hit home.

We recently had company and they wanted to see what ham radio was all about. I found the basement but had trouble finding the shack. All of my great fleamarket finds were scattered across the bench. I hurriedly threw the junk into a box, tried to fire up the rig, and discovered nothing was wired up. I had never put things in order from Field Day. Apologies were given to the guests and resolution number 1 was born. **Keep shack clean and in operating condition.** 

Earlier this month my wife woke up to our outside dogs barking. Bo kept it up until Linda had

to go find out what the problem was. She came back in (3:00 am) and asked for my help with the dogs. Bo had tangled himself in a dangling coax from my 80 meter dipole. Resolution number 2: **Keep all wires both inside and out in an orderly manner.** 

Over the years I have had the good fortune to make lots of great contacts. Because of my high location, large antennas, high towers, high power, and many patient hours on VHF, UHF, and microwave, I have been first FN31, first CT, or best DX for many hams. I know this from all the QSL's I have received. One came from a JA looking for confirmation for first CT on 6m, another from a ham in Michigan looking for confirmation of a 1296 QSO, another for first auroral QSO, another for first CT, and on, and on. I have no QSL cards of my own. Resolution number 3: Get KA1ZE cards and use them.

The January VHF contest is almost here. I have always put in a good effort but there are times when I forget the smaller, less powerful stations. The contest should be fun for all, small or large. Resolution number 4: Put fun back into the contest by helping the smaller stations, not by stepping on them.

On behalf of your board of directors and officers, I wish all a healthy and happy new year. 73, Stan.

#### There will be no VE exam in January

Next meeting will be January 4th, 8:00pm at the Feeding Hills Congregational Church

Next board meeting will be January 10th at NQ1C's house

#### Club Officers

#### President—Stan Hilinski, KA1ZE Vice President — Bob Lafleur, NQ1C Secretary —Jim Sebolt, N1DUY Treasurer—Greg Stoddard, N1AEH

#### **Board of Directors**

Charlie Dunlap, K1II Larry Lemoine, N1EPE Steve Nelson, WA1EYF Cliff Junkins, W1UWX Bob Cohen, K1CPJ Fred Stefanik, N1DPM Frank Potts, NC1I Scott Cohen, KA1QAS

Articles from this newsletter may be reprinted as long as credit is given to Zero Beat

### **Calendar of Events**

January	4	Meeting
	10	<b>Board Meeting</b>
,	19-20	VHF Contest
February	1	Meeting
•	6	VE Session
	7	Board Meeting
March	1	Meeting
	6	VE Session
	7	<b>Board Meeting</b>
April	5	Meeting
•	11	<b>Board Meeting</b>
	28	Fleamarket
May	3	Meeting
•	3 9	Board Meeting
June	5	VE Session
÷ .	7	June Banquet
	13	<b>Board Meeting</b>
		Field Day
	25-30	ricia Day

#### **VE Exam Results**

The HCRA VE exams have been quite successful. The following people have gotten their license, or upgraded through the HCRA VE program:

Susan Fredrickson, KC1UI upgraded to E; John McLaughlin, WA1ASH upgraded to E; Robert Barkowski, N1HQO upgraded to G; Mark Formhals, no call, upgraded to T; James Davis, N1HKF, upgraded to A; Seth Mancini, KA1VIL, upgraded to T; Fern Purdy, no call, upgraded to T; Robert Payne, KA1WAJ, upgraded to A; Thomas Shea, W1HYO, upgraded to A; James Demetrion, KA1WDR, upgraded to T; David Arthur, N2ISB, upgraded to E; Ronald Klimas, WA1VRH, upgraded to A; Roy Johnson, Jr., no call, upgraded to T; Lawrence Lemoine, N1EPE, upgraded to A; Barry Mason, no call, upgraded to T; Leo Matthew, no call, upgraded to T; Robert Miller, Jr., no call, upgraded to T.

Of course, the VE sessions would not be possible without the volunteers who have given their Wednesday evenings (and more!) to administer the exams. These volunteers are: Charlie Dunlap, K1II, Bob Roy, N1ABJ, Charles Vanderscoff, NQ1E, Al Carpin, NA1W, Rusty Hack, NM1K, John McLaughlin, WK1S, Sue Fredrickson, WM1B, Bob Rinaldi, W1CNY, and Steve Nelson, WA1EYF.

Incidentally, John and Sue passed their extras with us in September and came back to help with a session. I think that deserves a gigantic "THANKS", especially with them living so far from Agawam.

Special thanks to Janette Platanitis, WC1O, for making the whole VE effort work!

Receive Only	Freq. Range (MHz)	N.F. (dB)	Gein (d8)	1 dB Comp. (dBm)	Device Type	Price
P28VD	28-30	< 1.1	15	0	DGFET	\$29.95 \$29.95
P50VD	50-54	< 1.3	15	0	DGFET	\$79.95
P50VDG	50-54	< 0.5	24	+ 12	GAASFET	\$29.95
P144VD	144-148	< 1.5	15	0	DGFET	\$37.95
P144VOA	144-148	< 1.0	15	0	DGFET	\$79.95
P144VDG	144-148	< 0.5	24	+ 12	GaAsFET	\$29.95
P220VD	220-225	< 1.8	15	0	DGFET	\$37.95
P220VDA	220-225	< 1.2	15	0	DGFET	\$79.95
P220VDG	220-225	< 0.5	20	+ 12	GAASFET	\$32.95
P432VD	420-450	< 1.8	15	- 20	Bipolar	\$49.95
P432VDA	420-450	< 1.1	17	- 20	Bipolar GAASFET	\$79.95
P432VDG	420-450	< 0.5	16	+ 12	GEASPET	313.33
Inline (ri swit	ched)					
SP28VD	28-30	< 1.2	15	0	DGFET	\$59.95
SP50V0	50-54	< 1.4	15	0	DGFET	\$59.95
SP50VDG	50-54	< 0.55	24	+ 12	GAASFET	\$109.95
SP144V0	144-148	< 1.6	15	0	DGFET	\$59.95
SP144VDA	144-148	< 1.1	15	Q	DGFET	\$67.95
SP144VDG	144-148	< 0.55	24	+ 12	GAASFET	\$109.95
SP220VD	220-225	< 1.9	15	Q	DGFET	\$59.95
SP220VDA	220-225	< 1.3	- 15	0	DGFET	\$67.95
SP220VDG	220-225	< 0.55	20	+ 12	GAASFET	\$109.95
SP432VD	420-450	< 1.9	15	- 20	Bipolar	\$62.95 \$79.95
SP432VDA	420-450	< 1.2	17	- 20	Bipolar	
SP432VDG	420-450	< 0.55	16	+ 12	GAASFET	\$109.95

Every preemptifier is precision eligned on ARR's Houtest Packard HPSFSANP346A state-of-the-of notes figurameter. RX only preemptifiers are for receive applications enty. Inline preemptifiers are ri switched (for usewith transcervers) and hance 25 watts transmitter power. Mount inline preemptifiers between transceiver, and covery emptifier for high power applications. Other ameteur, commercial and epocal preemptifiers available.

in the 1-1000 MHz range. Please include \$2 shipping: U.S. and Canade. Connecticut residents add 7-V/\* sales tex. C.O.D. enters and \$2. Air melt to foreign cout trise add 10%. Order your ARR Rx only or inlir preamputter teasy and start hearing like never before

#### Advanced Receiver Research

Box 1242 • Burlington, CT 06013 • 203 582-9409



Loop yagis: 903 MHz 33 elements \$89 kit, \$109 assembled and tested. 1296 MHJz 45 elements \$89 kit, \$109 assembled and tested. 1296 55 element "Super Looper" \$99 kit, \$124 assembled and tested. 2304 MHz 45 element \$75 kit, \$89 assembled and tested. Element and hardware kits also available for above loop yagis. 2 and 4 way power dividers. Discount on complete arrays. Solid state linear power amps, 13vDC: 1296 8W in, 35W out, \$315. 1W in, 20W out, \$265. 4W in, 70W out, \$695. GaAsFET preamps: 902.8dB NF, \$90. 1296.8dB NF, \$90. 2304 1dB max NF, \$140. SHF systems no-tune transverter kits with 144 MHz IF now available for 902 through 3456. Write or call for complete catalog. DOWNHEAST MICROWAVE, Bill Olson, W3HQT. Box 2301, RR1, Troy Maine, 04907. For information and orders telephone (207) 948-3741.

Rutland Arrays — Highest performance yagis available! 10M: RA5-28 5 elements, 8dBd gain. 6m: RA4-50 4 elements, 12' 4"8.25dBd. RA7-50 7 elements 26' 6"10.5dBd. 2m: RA8-2UWB 8 elements 11' 9"13.5dBi gain. FO12-144 12 elements 17' 4"12.6dBd. FO15-144 15 elements 24' 8"13.7dBd. 22: FO16-220 16 elements 7' 3"14dBd. 70cm: FO11-440 11 elements 6' rear mount 12dBd. FO22-432 22 element 14' 15.8dBd. FO25-432 25 elements 17' 3", 16.5dBd. FO33-432, 33 element 24' 3"7.8dBd. We also have stacking frames and power dividers. Call or write for our catalog. 1703 Warren Street, New Cumberland, PA 17070. (717) 774-8298 7:00-10:00 pm EST.

#### From ARRL Press Releases

Starting in February of 1991, there will a license class for amateurs which does not require knowledge of Morse code. The Federal Communication Commission (FCC) has eliminated the need for new Technician class license applicants to demonstrate proficiency in Morse code in order to obtain amateur privileges above 30 Mhz. This may be implemented as early as February of 1991. Technicians who obtained their licenses prior to that date will be grandfathered, and will continue their existing HF privileges.

The new codeless Technician written exam will have 55 questions. All modes and frequencies available to existing technician class licensees above 30 Mhz will be available to the new codeless licensees. Passing a 5 word-per minute Morse code examination administered by volunteer examiners will qualify the new codeless class Technicians to use all HF modes granted to existing Novices and Technicians. No changes in callsign will be made.

No changes in the existing Novice license class were announced. More details will be available in February QST.

#### What Now?

Opinion By Jeffrey J. Duquette K1BE

With the codeless license finally here, all radio clubs should gear up for radio classes. The novice and Technician theory should be taught and the written exams should be made available to students every week after the fifth week. While it is confusing to use the same name for the new codeless license, this is a great opportunity for all radio clubs. If you don't take the lead and teach the new people the right way, they'll start out on the wrong foot and a sour note will resound for years.

What's in it for us? Well, obviously new members who'll bring new ideas and enthusiasm! Won't they all just go and join the repeater clubs? Sure, many will, and some of their students will join our club. Why not! It's all one fraternity. What benefits one club, benefits all the clubs!

#### Cheapo Test Equipment

Gent Lam WA1CQF

How many times have you thought about a super deluxe work bench with an array of neat test equipment? Well, the thought has crossed my mind many times and the idea of paying big money for test equipment (which will probably be used infrequently), has put a damper on my test gear selections.

The first piece of equipment should be a VOM, (Volt Ohm Meter), which can also be pressed into service around the

ranges, and a fairly decent one can be purchased for \$50. If you require greater accuracy from an inexpensive unit, it can be calibrated against a more expensive instrument, (borrowed from another ham, of course), and a chart can be plotted noting the error.

Another versatile instrument is the venerable grid dip meter. Its uses are widely documented and for its modest investment, it serves as a signal generator, wavemeter, and crystal checker. With known capacitors and inductors, it can be easily used to find the values of those unmarked coils and capacitors that you bought at the last flew market.

How can you determine the output power of your rig without plunking down \$200 for a Bird wattmeter and associated slugs? Scrounge around for a surplus RF ammeter and by using a resistive dummy load, you can determine power output with reasonable accuracy by using the formula P=I<sub>2</sub>R. (Where I = indicated RF current, R = impedance of your dummy load, nominally 50 ohms.)

There are many pieces of equipment that fall under the nice to have category but are not cost effective for most of us to own. Regardless of the type and quality of test equipment you own, get to know how to use them. Dust them off and give them a workout with your functioning gear. It's a lot easier to troubleshoot if you have an idea of what you're supposed to be looking for!

Reprinted from Zero Beat, November 1981

#### Ten Rules for Selling Equipment

Ву

Ed White W1NPL

- 1. Clean up the gear, making it presentable.
- 2. Permit a demonstration, or a trial period.
- 3. When stating the selling price, be firm about the figure. (Be certain what you want.)
- 4. If you wish to bargain, don't set a price.
- 5. If you're willing to ship it, be certain to state who pays the shipping costs.
- 6. Sometimes a better all-around transaction can be had by accepting a trade.
- 7. Under no circumstances accept "\$10.00 down, 50¢ a week"! If the buyer needs cash, let them get a loan from a bank!
- 8. Should the equipment be defective, state it, and make sure the buyer knows it.
- 9. Don't be misleading. i.e. It was only used by a grandmother to set her watch to WWV!
- 10. Remember that the vast majority of hams are anxious to please the buyer.

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#### Speedup for Relay Keyed Radios -- R. Place WB2JLR

Here's a simple trick to improve those radios of yours with relay keying. While modifying for PIN diode switching would be great, some radios switch so many different voltages that it's not feasible to go to solid state switching. I tested several relays and found that while most will turn on in under 10 msec, the time drop out time was at least 3 times that long. When the relay is turned off, current continues to flow through it via the snubber diode. The current dies out exponentially depending upon the relay coil's resistance and inductance, but in the meantime it keeps the relay energized. By adding resistance in series with the snubber diode you can decrease that time constant and speed things up. Adding this resistance will increase the voltage transient that the keying transistor will see, so you must be careful not to use too big of a resistor. The procedure to follow is this:

>Look up the Collector - Emitter voltage rating of the keying transistor hooked to the relay.

>Divide the voltage rating by the voltage applied to the relay and write down that ratio.

>Measure the resistance of the relay (measure it both directions and

use the higher reading so that you aren't just reading the diode across it.)

>Multiply the resistance you measured by the ratio calculated above, and round that number down to the nearest available resistor value.

>Add this resistor in series with the snubber diode that is across the relay.

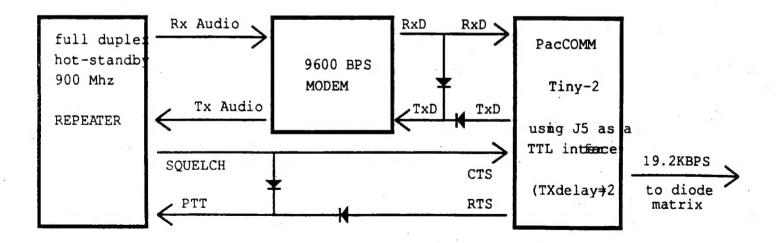
When you are done, the voltage transient that occurs at the collector of the transistor when it unkeys will be just under the voltage rating of the transistor. The time for the relay to unkey will be reduced by a factor equal to the ratio calculated above.

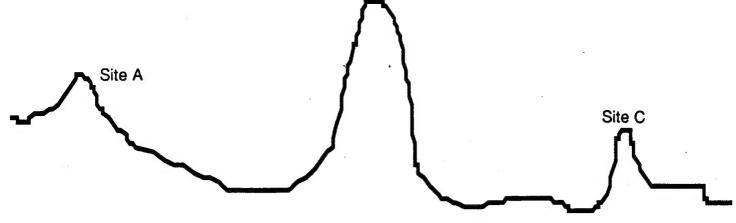
#### 9600 Baud 900 Mhz Repeater

The CANDGA node in Canandaigua NY is now using a 900 MHz full duplex repeater which includes and internal 9600 baud modem. The equipment, donated by Microwave Data Systems in Rochester NY, will provide connectability from MONROE in Rochester to COR144 in Cortland, over 80 miles away. Being full duplex

completely avoids the hidden transmitter syndrome since anyone within range of the repeater will hear anyone else transmitting to the repeater. Data being sent between MONROE and COR144 will bypass the CANDGA tncs, going out of and directly back into the modem at the repeater. This speeds things up an additional factor

of 2 over a conventional store-andforward type node. If the packets are addressed to CANDGA, then it intercepts them and responds. Here is the configuration for anyone else thinking about doing something similar. Rich WB2JLR @ KC3BQ





**Hidden Transmitter Syndrome** 

This is the bane of most earlier packet networks. A system with 3 sites: Site A and Site C are far enough apart that they don't hear each other at all. Site A and site C are near cities. Each has a BBS or 2. Site A has traffic to go to site C and site C has traffic to go to site A or B. Site A will transmit when it doesn't hear anything. Site C will do the same. Site B hears both A and C. If C is transmitting and A decides to transmit. both messages are lost. If A is waiting for a reply from B and site C is talking, then site A has to wait. If C is talking for too long, site A will retry, thus trashing the message C is sending to B.

If the A to B link was on a different frequency than the B to C link, the observed performance increase is greater than 5 times, regardless of the baud rate! A hidden transmitter is a station that can be heard by one or more stations on a frequency but can not hear ALL of the stations on the frequency. It is the policy of N.E.D.A. to stay away from hidden transmitters on any new backbones that are added to the network.

#### Hidden Transmitters on User Ports

It is not possible to eliminate HTS on simplex user ports. It is certainly possible to eliminate HTS on a user port if the user port could take advantage of a duplex repeater. However, given that most user ports are simplex systems the effects of the hidden transmitter problem must be taken into account

If the user port node is the only

station on frequency that can hear everybody and if all stations on frequency have parameters set to take advantage of this, the following is true:

Time used for data transmission by the node is about 80% efficient. Time used for data transmission by user stations is about 80% efficient, under minimum load. Under maximum load the time used for data transmission by the node is still 80% efficient but time used by the user stations drops down to near 0% efficient. Thus it is useful to have sources of lots of data (i.e. automated stations like BBSs) to be sourced through the network and not from a normal user site on a 2 meter user frequency.

For this reason NEDA recommends that automated stations which source a lot of data (i.e. servers/BBSs) use uplink channels that are lightly loaded and where the bulk of the users will not be affected (220 or 440). This improves efficiency of the server operation and makes for the maximum amount of fun for the random packeteer.

#### Minimizing HTS

#### 1. On Backbones:

Keep each link hidden transmitter free. Try to configure backbones as dedicated end to end links using only two radios per frequency/link if on a high traffic path. High volume means that there is channel activity as much as 1/4 of the time during peak loading periods.

Set persistence values at each port on a backbone to 256/(N-1) where N is the number of nodes on your backbone frequency. Example: If 4 nodes on backbone frequency then use Persistence of 85 at each port.

Set slot time at each port on a given backbone equal to Txdelay for that port.

### 2. Users that are high data volume sources:

High data volume sources should minimize collisions with low volume users by setting up dedicated uplink channels to one or more local nodes. Arrangements might be made with other local high data volume sources to share a dedicated user port. This should not be on 2 meters.

### 3. Users that are not high data volume sources:

These users should arrange to use minimum power to assure full quieting signal at a NEDA node user port which has few or no co-channel nodes or servers. Observe the node in monitor mode and see what/who is uplinking to it. What/who is downloading is much less important. On channel Dxing of user ports is seriously not a good thing. Low power is used by the users to maintain a signal into only one node. This helps in the effort to minimize hidden transmitter problems on nodes which have overlapping coverage.

Keep MAXFRAME low (1 or 2), and DWAIT at 16. CROWD nodes let you use PACLEN up to 240 so set it at 240.

# Country Distance and Bearings FT from the Western Mass Area

_							ĔI	IRELAND	52	232	2992- 4815	283	103
C	ountry [	Dist	tance	and B	earın	ıgs	EL	LIBERIA	104	284 224	4562- 7342 6256-10068	314 323	134 143
	-				_		EP ET	IRAN ETHIOPIA	44 69	249	6867-11052	316	136
,	from the	∍ W	este	rn was	s are	<b>a</b> .	F '	FRANCE	59	239	3570- 5746	294	114
							FG	GUADELUPE	156	336 261	1915- 3082 8201-13198	342 311	162 131
							FH FJ	MAYOTTE ST. MARTIN	81 158	338	1756- 2826	343	163
Prefix	Country Name S. MALTA BASES	Path 63	L. Path 243	Miles-Kilo. 4455- 7169	RetS Path 305	125	FK	N. CALEDONIA	275	95	8818-14191	53	233
1A0 1S	SPRATLY	354	174	8889-14306	4	184	FM	MARTINIQUE	157	337 56	2033- 3271 3117- 5017	342 39	162 219
3A	MONACO	59	239	3850- 6197	298	118	FO ·	CLIPPERTON FR.POLYNESIA	236 248	68	6366-10246	46	226
3B6 3B8	ST.BRANDON MAURITIUS	69 78	249 258	8670-13954 9187-14785	315 310	135 130	FP	ST. PIERRE+	64	244	865- 1392	255	75
3B9	RODRIGUEZ I	73	253	9435-15184	311	131	FR	REUNION	81	261 258	9103-14651 8305-13365	308 312	128 132
3C	EQU GUINEA	94	274	5689- 9156	312	132 133	FR/G FR/J	GLORIOSO I JUAN DE NOVA	78 86	266	8270-13309	309	129
3C0 3D2	PAGALU I. CONWAY REEF	99 267	279 87	5660- 9109 8371-13472	313 53	233	FR/T	TROMELIN	76	256	8800-14162	312	132
3D2	ROTUMA	275	95	7813-12574	49	229	FT8W	CROZET	117 118	297 298	9691-15597 10532-16950	284 270	104 90
3D2	FIJI I.	271	91	8181-13166 8089-13018	51 306	231 126	FT8X FT8Z	KERGUELEN I AMSTERDAM I	90	270	10855-17470	290	110
3D6 3V	SWAZILAND TUNISIA	102 67	262 247	4351- 7003	304	124	FW	WALLIS I.+	269	89	7500-12070	50	230
3X	GUINEA	101	281	4353- 7006	312	132	FY G	FR. GUIANA ENGLAND	150 52	330 232	2893- 4656 3275- 5272	338 287	158 107
3Y	PETER I.	187 141	7 321	7730-12440 7989-12857	15 307	195 127	GD	ISLE OF MAN	50	230	3122- 5025	284	104
3Y 4J1	BOUVET I. MALYJ VYSOTSK	34	214	4088- 6579	302	122	GI	N. IRELAND	50	230	3031- 4879	282	102
45	SRI LANKA	33	213	8651-13923	336	156	GJ GM	JERSEY SCOTLAND	56 46	236 226	3311- 5328 3090- 4974	290 281	110 101
4U 4U	ITU-N.YORK ITU-GENEVA	225 57	45 237	107- 172 3744- 6025	44 296	224 116	GU	GUERNSEY	56	236	3300- 5311	289	109
4 W	YEMEN	61	241	6797-10939	318	138	GW	WALES	52	232	3195- 5142	286	106
4X	ISRAEL.	55	235	5556- 8942	314	134	H4 HA	SOLOMON I. HUNGARY	292 50	112 230	8520-13712 4288- 6901	44 303	224 123
5A 5B	LIBYA CYPRUS	69 55	249 235	5017- 8074 5288- 8511	309 312	129 132	HB	SWITZERLAND	55	235	3798- 6113	297	117
5H	TANZANIA	83	263	7389-11892	312	132	HB0	LIECHTENSTEI	55	235	3849- 6195	297	117
5 N	NIGERIA	90	270	5315- 8555	311	131	HC HC8	ECUADOR GALAPAGOS I.	187 205	7 25	3059- 4924 3129- 5037	5 19	185 199
5R 5T	MADAGASCAR MAURITANIA	86 94	266 274	8535-13736 3804- 6123	309 308	129 128	нн	HAITI	179	359	1595- 2567	360	180
5 U	NIGER	84	264	5001- 8048	310	130	HI	DOMINICAN R.	175	355	1600- 2575	356	176
5V	TOGO	95	275	5008- 8060	312	132	HK HKO	COLOMBIA MALPELO I.	179 194	359 14	2631- 4234 2714- 4368	359 10	179 190
5W 5X	W. SAMOA UGANDA	266 78	86 258	7295-11740 6912-11124	49 313	229 133	HK0	SAN ANDRES	197	17	2119- 3410	13	193
5 <b>z</b>	KENYA	77	257	7305-11756	314	134	HL	KOREA	345	165	6816-10969	14	194
6W	SENEGAL	102	282	3917- 6304	312	132 188	HP HR	PANAMA HONDURAS	193 208	13 28	2330- 3750 2042- 3287	10 21	190 201
6Y 70	JAMAICA P.D.R. YEMEN	190 57	10 237	1684- 2711 7017-11293	320	140	HS	THAILAND	9	189	8458-13612	353	173
7 <b>P</b>	LESOTHO	106	286	8034-12929	306	126	HV	VATICAN	59	239	4169- 6710	302	122
7Q 7X	MALAWI ALGERIA	90 77	270 257	7651-12313 4191- 6745	310 305	130 125	HZ I	SAUDI ARABIA ITALY	54 58	234 238	6324-10177 4142- 6666	319 301	139 121
8P	BARBADOS	156	336	2145- 3453	342	162	IS0	SARDINIA	62	242	4076- 6560	301	121
BQ	MALDIVE I.	45	225	8790-14146	328	148	J2	DJIBOUTI	64	244 229	6940-11169	317	137 141
8R 9G	GUYANA GHANA	158 96	338 276	2693- 4335 4901- 7888	344 312	164 132	J2/A J3	ABU AIL-JABA+ GRENADA	49 158	338	6382-10271 2184- 3516	321 344	164
9н	MALTA	63	243	4455- 7169	305	125	J5	GUINEA-BISSAU	103	283	4009- 6453	312	132
93	ZAMBIA	92	272	7401-11912	310	130	J6 J7	ST. LUCIA DOMINICA	157 157	337 337	2100- 3380 1969- 3170	342 342	162 162
9K 9L	KUWAIT SIERRA LEONE	49 105	229 285	6233-10032 4347- 6996	320 314	140 134	J8	ST.VINCENT	158	338	2116- 3406	343	163
9M2	W. MALAYSIA	10	190	9283-14940	353	173	JA	JAPAN	336	156	6702-10787	22	202
9M6	E. MALAYSIA	351	171 201	9288-14949	7	187	JD1 JD1	OGASAWARA MINAMI TORI+	329 318	149 138	7174-11546 7020-11297	26 33	206 213
9N 9Q	NEPAL Zaire	21 88	268	7382-11880 6786-10921	343 312	163 132	JT	MONGOLIA	2	182	6344-10210	358	178
90	BURUNDI	85	265	7042-11333	312	132	JW JX	SVALBARD JAN MAYEN	17 26	197 206	3511- 5651 2932- 4718	288 263	108 83
9V 9X	SINGAPORE RWANDA	83	185 263	9446-15201 6948-11183	356 313	176 133	JY	JORDAN	55	235	5647- 9088	315	135
9 Y	TRINIDAD	160	340	2240- 3604	345	165	KC4	ANTARTICA	193	13	9097-14641	83	263
A2	BOTSWANA	103	283	7543-12140	309	129	KC6	BELAU MICRONESIA	322 312	142 132	8361-13457 8148-13114	27 34	207 214
A3 A4	TONGA OMAN	262 46	82 226	7808-12566 6995-11258	52 325	232 145	KG4	GUANTANAMO	186	6	1540- 2478	5	185
A5	BHUTAN	16	196	7514-12093	347	167	KH0	N.MARIANA I	320	140	7750-12473	29	209
A6 A7	U. ARAB EM.	48	228 229	6734-10838 6568-10570	323 322	143 142	KH1 KH2	BAKER-HOW+ GUAM	281 320	101 140	6905-11112 7939-12777	47 30	227 210
A9	QATAR BAHRAIN I.	49	229	6483-10433	321	141	кнз	JOHNSTON I.	288	108	5803- 9339	48	228
AP	PAKISTAN	32	212	6910-11121	333	153	KH4 KH5	MIDWAY I. PALMYRA +	300 274	120 94	5618- 9042 5910- 9511	47 48	227 228
BV BY	TAIWAN CHINA	346	166 182	7831-12604 7103-11432	11 358	191 178	KH5K	KINGMAN REEF	275	95	5863- 9437	48	228
C2	NAURU	292	112	7779-12520	44	224	KH6	HAWAII	282	102	5048- 8125	51	231
C3	ANDORRA	63	243	3649- 5873	297	117	KH7 KH8	KURE I. AM. SAMOA	302 264	122 84	5654- 9100 7247-11662	46 50	226 230
C5 C6	THE GAMBIA BAHAMAS	103 190	283 10	3934- 6332 1258- 2025	312 8	132 188	KH9	WAKE I.	305	125	6775-10903	40	220
C9	MOZAMBIQUE	92	272	7933-12768	309	129	KL7	ALASKA	326	146	3365- 5415	77	257
CE	CHILE	179 186	359 6	4979- 8014 5207- 8380	359 6	179 186	KP1 KP2	NAVASSA I. VIRGIN I.	186 162	6 342	1670- 2688 1716- 2763	346	184 166
CE0	J. FERNANDEZ EASTER I.	213	33	5319~ 8560	27	207	KP4	PUERTO RICO	166	346	1697- 2731	349	169
CE0	SAN FELIX I.	187	7	4740- 7629	6	186	KP5 KX6	DESECHEO I.	165 297	345 117	1708- 2749 7237-11647	348 42	168 222
CM CN	CUBA MOROCCO	199 77	19 257	1500- 2414 3690- 5939	15 301	195 121	LA	MARSHALL I. NORWAY	37	217	3481- 5603	287	107
CP	BOLIVIA	172	352	4109- 6613	354	174	LU	ARGENTINA	173	353	5283- 8502	353	173
CT	PORTUGAL	71	251	3302- 5314	295	115	LX LZ	LUXEMBORG BULGARIA	53 52	233 232	3648- 5871 4647- 7478	294 307	11 <b>4</b> 127
CT3	MADERIA I. AZORES	84 82	264 262	3070- 4941 2344- 3773	299 291	119 111	OA	PERU	184	4	3604- 5800	3	183
cx	URUGUAY	166	346	5291- 8515	347	167	OD	LEBANON	54	234	5505- 8859	314	134
D2	ANGOLA	99	279	6824-10983	311	131	OF	AUSTRIA FINLAND	53 31	233 211	4007- 6450 3890- 6261	299 298	119 118
D4 D6	CAPE VERDE COMOROS	107 81	287 261	3378- 5437 8132-13087	312 311	132 131	OHO	ALAND I.	37	217	3840- 6180	296	116
DA	W. GERMANY	50	230	3719- 5986	295	115	OJ0	MARKET REEF	36	216	3843- 6185	296	116
DU	PHILIPPINES	343 68	163 248	8514-13702 3472- 5589	13 2 <b>96</b>	193 116	ON	CZECHOSLAV+ BELGIUM	49 53	229 233	4087- 6578 3532- 5685	300 292	120 112
EA EA6	SPAIN BALEARIC I.	66		3824- 6155	299	119	ox	GREENLAND	20	200	2240- 3605	228	48
EA8	CANARY I.	88	268	3314- 5333		123	OY OZ	FAROE I. DENMARK	39 44	219 224	2941- 4733 3620- 5827	274 292	94 112
EA9	ge 6	73	253	3632- 5846	299	119			• •			anuar	
1 UE	500										J	www.	, 1))1

## **VHF Contest Activity Hours**

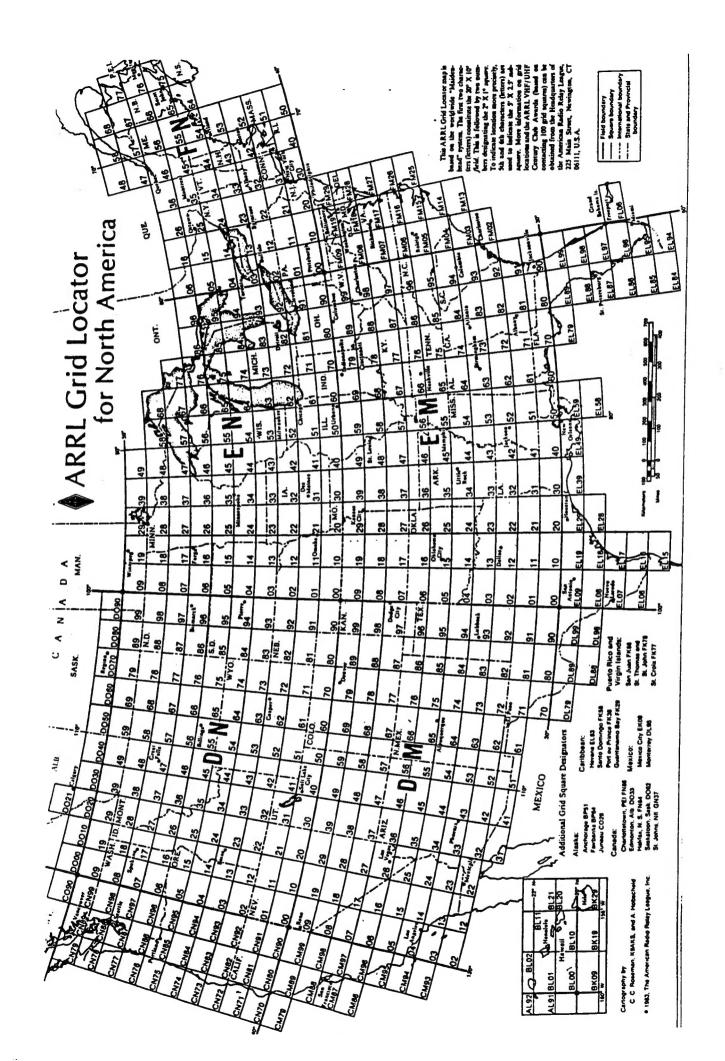
Start	<u>End</u>	Day	<u>Event</u>
2:00 PM		Sat	The contest starts!
2:00 PM	3:00 PM	Sat	220 MHz activity hour 432 MHz activity hour 1296 MHz activity hour 903 MHz activity hour 6m activity hour 2m Local FM activity hour
3:00 PM	4:00 PM	Sat	
4:00 PM	5:00 PM	Sat	
5:00 PM	6:00 PM	Sat	
6:00 PM	7:00 PM	Sat	
7:00 PM	8:00 PM	Sat	
8:00 PM	9:00 PM	Sat	220 MHz national activity hour
9:00 PM	10:00 PM	Sat	432 MHz national activity hour
10:00 PM	11:00 PM	Sat	1296 MHz national activity hour
11:00 PM	12:00 AM	Sat	903 MHz national activity hour
6:00 AM	7:00 AM	Sun	6m activity hour
7:00 AM	8:00 AM	Sun	2m Local FM activity hour
8:00 AM	9:00 AM	Sun	220 MHz national activity hour
9:00 AM	10:00 AM	Sun	432 MHz national activity hour
10:00 AM	11:00 AM	Sun	1296 MHz national activity hour
11:00 AM	12:00 N	Sun	903 MHz national activity hour
12:00 N	1:00 PM	Sun	6m activity hour 2m Local FM activity hour 220 MHz activity hour 432 MHz activity hour 1296 MHz activity hour 6m activity hour Local FM activity hour
1:00 PM	2:00 PM	Sun	
2:00 PM	3:00 PM	Sun	
3:00 PM	4:00 PM	Sun	
4:00 PM	5:00 PM	Sun	
6:00 PM	7:00 PM	Sun	
7:00 PM	8:00 PM	Sun	
8:00 PM	9:00 PM	Sun	220 MHz national activity hour
9:00 PM	10:00 PM	Sun	432 MHz national activity hour
10:00 PM	11:00 PM	Sun	1296 MHz national activity hour
	11:00 PM	Sun	The contest concludes!

#### W1NY on:

446.000 MHz FM

223.500 MHz FM

146.550 MHz & 146.580 MHz & 146.490 MHz



# VHF ∞ UHF ∞ SHF Contest Log

all Used		Grid <sup>2</sup>		Log Sheet _	
Date Band	Time	Call Worked	Grid <sup>2</sup>	Mult	Note
			<del></del>		
	3		-		
			<del></del>		
				+	
:					
		:			
Contacts per		Totals			

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# $VHF \infty UHF \infty SHF Contest Log$

Date	Band	Time	Call Worked	Grid <sup>2</sup>	Mult	Notes
		1 .				
			·			
	-					

### HCRA Members Active in the January 1991 VHF Sweepstakes

	6m	2	m	. 2	20	70	cm	903	1296	up
	CW SSB	CW SSB	FM	CW SSB	FM	CW SSB	FM	CW SSB	CW SSB	CW SSB
K1BE	1	1	1	$\sqrt{}$	1	1	1		1	
K1BXE	1	1	1		1	1	1		1	
NQ1C	V		1	1	1	1	1		V	
W1CJK	V	1	1		1	1	1			
K1CPJ	1	1	1		1	V	1			
N1DPM	1	1	1	V	1	1	1	V	V	
N1EHS	V	1	1				1			
WB1ETS	1	1	1		1	1	1		1	
N1EVE	1	V	1				1			
WA1EYF	1	1	1			1	1			
N1FFZ	1	1	1				1			
WB1FIQ	1	1	1		1	1	1		1	
N1FMT	1	1	1				1			
N1GXR			1	a			1			
NC1I			1				1			
N1IED	1	1	1				V			
K1II	1	1	1				V	-		
NM1K	1		1		1		1		$\sqrt{}$	
W1KK			1							
NR1L	1	1	1	1	1	1	1	1	<b>√</b>	1
KA1MPS	1	1	1		1	1	1		1	
W1NY	1	1	1	1	1	1	1		$\sqrt{}$	
WA10CK	1	1	1		1		V			
KC1OR	1	1	1			1	1			
WA1PLS	1	1	1		1		1			
KA1QAR					1					
KA1QAS	1	1	1		1	1	1			
W1RIL	1	1	1	1		1		1	7	7
AC1T	V	1	1		1	1	V			
KA1TBS			7				1			
KA1TMV					1					
W1UWX		1	7		1	1	1			
WA1VRH	1	1	1		-	1	<u> </u>			-
NA1W		1	1		1	1	7		7	
K1WVX	1	1	√.				7		Ī	
WA1YCA		<b>√</b>	<b>√</b>							
KA1ZE	1	<b>V</b>	1	<b>V</b>	$\sqrt{}$	1	1	7	1	1

Use this grid to keep track of the local stations you have worked. When you work a station, highlight the square with their call and the band you worked them on. Follow across to see if the station has any other bands you need to work them on.

You may only work a station once per band per grid square.

Don't be afraid to ask a station for a sked on another band. Once you work a station on one band, work them on all the bands they have.

#### 6 meters:

CW 50.075-50.100 DX window 50.100-50.120 SSB 50.120-50.200 Calling frequency 50.125

#### 2 meters:

CW 144.075-144.100 SSB 144.100-144.250 Calling frequency 144.200 FM simplex 146.49, 146.55, 146.58

#### 220 MHz:

CW/SSB 220.075-220.125 Calling frequency 220.100 FM simplex 223.50

#### 70cm:

CW/SSB 432.075-432.150 Calling frequency 432.100 FM Simplex 446.000

#### 903 MHz:

CW/SSB 903.085-903.115 Calling frequency 903.100

#### 1296 MHz:

CW/SSB 1296.085-1296.125 Calling frequency 1296.100

P2 PAPUN N.G. 302 122 8229-14210 39 219 P4 ANUBA I 175 355 2049-3298 356 175 PA NETHERLANDS 50 2230 3543-5703 292 112 P70 STATTILLES 173 353 2082-3351 355 175 P35 ST. BUSTATIUS 173 353 2082-3352 355 175 P70 FERNANDO- 131 333 310 2082-3352 355 175 P70 FERNANDO- 131 333 310 2082-3352 355 175 P70 FERNANDO- 131 333 310 2082-3352 356 175 P70 ST. PETERS 124 304 3913-6297 322 142 P70 TRINDADE+ 138 318 318 518 5132-8260 328 148 PZ SURLIMAM 154 334 2821-4541 341 161 PZ SURLIMAM 171 251 6144-9888 314 134 PZ SURLIMAM 171 251 6144-9							
PA NETHERLANDS	P2	PAPUA N.G.	302	122	8829-14210	39	219
P.72 NET.ANTILLES 173 533 2082-3351 355 175 PY BRAZIL 159 339 3765-6059 344 164 PYO FERNANDO- 131 31 311 4071-6551 326 146 PYO FERNANDO- 131 31 311 4071-6551 326 146 PYO ST.PETER+ 124 304 3913-6297 322 142 PYO THINDAPH 138 318 318 1318 1312-8260 328 142 PYO THINDAPH 138 318 318 1312-8260 328 142 PYO THINDAPH 139 318 318 1312-8260 328 PROBLEMS 159 19 19 7731-12441 303 1625 PYO TO THINDAPH 139 19 19 7731-12441 303 1625 PYO THINDAPH 139 19 19 19 19 19 19 19 19 19 19 19 19 19						356	176
### PACENTER*   173   353   2089- 3362   355   355   175   PYO ### SPACE   159   339   3765-0699   344   164   PYO ### SPACE   159   339   3765-0699   344   164   PYO ### SPACE   136   311   4071- 6551   326   146   PYO ### SPACE   136   311   4071- 6551   326   146   PYO ### SPACE   138   318   313-2 9260   324   148   PYO ### SPACE   138   318   313-2 9260   324   148   PYO ### SPACE   136   313-3 926   312   312   PYO ### SPACE   136   323-3 9266   312   313   PYO ### SPACE   136   324-3 928   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136   326   326   326   326   326   PYO ### SPACE   136							
PY 0 FERNINGO							
PYO ST.PETRH 131 311 4071- 6551 326 148 PYO ST.PETRH 132 318 5132- 6260 328 148 PYO ST.PETRH 138 318 5132- 6260 328 148 S. BANGLADER 138 318 5132- 6260 328 148 S. BANGLADER 17 197 7731-1242 346 166 S. BANGLADER 18 226 4059-6549 310 120 S. BANGLADER 18 226 4059-6549 310 120 S. BANGLADER 18 226 4059-6549 310 120 S. BANGLADER 18 226 576-6973 313 133 S. BANGLADER 17 227 6659-10781 314 314 S. BANGLADER 18 226 576-6973 313 313 S. BANGLADER 18 2							
PYO ST.PETER+ 124 304 3913-6297 322 1142 PYO ST.NEADRE+ 138 318 5132-6296 328 148 PZ SUNHINAN 154 334 2821-4541 341 161 SO W. SAHARA 90 270 3567-5741 305 SO W. SAHARA 90 270 3567-5741 305 SZ BANGLABESH 17 197 7731-12442 146 166 SZ SZ BANGLABESH 17 197 7731-12442 146 166 SZ SZ BANGLABESH 17 197 7731-12442 146 166 SZ S							
PYO TRINDAPH 138 318 5132-2260 328 148 50 W. SAHARA 90 270 3567-5741 305 125 2 BANGLADESH 17 197 7731-12442 346 166 57 SEYCHELLES 66 246 8315-13342 317 137 58 SEYCHELLES 66 246 8315-13342 317 137 58 SHOOT SHOW 14 226 4065-6549 201 131 28 SHOW 14 226 4065-6549 201 120 8 SHOW 15 SHOW 17 28 28 28 28 28 28 28 28 28 28 28 28 28							
PZ SURHIANN 154 334 2821-4541 341 121 125   50 W. SAHARA 90 270 3567-5741 305 125   57 SEVCHELES 66 246 8315-1332 317 137   57 SEVCHELES 66 246 8315-1332 317 137   58 SURDEN 36 216 6345-549 291 111   57 SEVCHELES 66 246 8315-1332 317 137   58 SURDEN 36 216 6345-549 291 111   57 SEVCHELES 66 246 4059-6549 300 120   57 SEVCHELES 66 246 4059-6549 301 120   57 SEVCHENT 72 257 659-10721 314 134   57 SURDEN 37 SURDEN 37 2257 659-10721 314 134   57 SURDEN 37							
SO W. SAIARAN 90 270 3567-5741 305 125 2 BANGLADSH 17 197 7731-1242 346 166 57 SEYCHELLES 66 246 8315-13382 317 137 589 SAO TOME + 96 276 5633-9066 312 58H SHEDEN 36 216 3633-9066 312 58H SHEDEN 36 216 3633-9066 312 58T SUDAN 71 251 6144-9888 314 134 58T SUDAN 77 257 6593-10781 314 134 58T SUDAN 71 251 6144-9888 314 134 58T SUDAN 71 251 6144-9888 314 134 58V GEVET 62 242 5576-8973 314 134 58V GEVET 62 242 5576-8973 314 134 58V GEVET 62 242 5576-8973 317 123 58V GEVET 62 242 5576-8973 310 123 58V GEVET 62 243 5576-8973 310 123 58V GEVET 62 243 5576-8973 310 123 58V GEVET 62 243 5576-8973 310 123 58V GEVET 62 244 2574-1053 48 228 58V GEVET 62 242 242 242 243 58V GEVET 62 243 243 244 244							
SPACE   SECREPTION   SECREPTI	S0	W. SAHARA					
SAC TOME + 96	S2	BANGLADESH	17	197	7731-12442	346	
SM SWEDEN 36 216 3634-5849 291 111 ST 9ULAND 46 226 4059-56549 300 120 ST 9UDAND 77 257 6699-10791 314 134 SU GECT 77 257 6699-10791 314 134 SU GECT 57 237 4688-7545 307 127 SU GECT 57 237 4688-7545 307 127 SV/A MT. ATROS 55 235 4731-7614 308 128 SV5 CREEC 59 239 4950-7966 309 129 SV5 CORECAMES 56 236 5074-8166 310 130 SV9 CRETE 59 239 4950-7966 309 129 TU TUVALU 276 96 7574-12130 48 228 TJ 10 K. KIRIBATI 289 109 7108-11440 45 225 TJ 11 C. KIRIBATI 289 109 7108-11440 45 225 TJ 27 TUVALU 276 96 7574-12130 48 228 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 45 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 289 109 7108-11440 75 225 TJ 28 K. KIRIBATI 280 128 214 214 214 215 215 215 215 215 215 215 215 215 215	S7	SEYCHELLES	66	246	8315-13382	317	137
SP FOLAND  ***ST SUDAN*** 71, 2251						312	132
STO SUDIAN 71 251 6144-9888 314 134 STO SUCH SUDAN 77 257 6699-10781 314 134 SU ECYPT 62 242 5576-8973 313 313 SV GRECE 57 237 4688-7545 307 127 SV/A MT. ATHOS 55 235 4731-7614 308 128 SVS DOCKDESE 56 236 5074-8166 310 130 SVS CRETE 59 239 4550-7866 309 129 TZ TUVALU 276 96 7574-12190 48 228 T310 W.KIRTANTI 289 109 7108-11440 45 225 T311 C. KIRTBATI 289 109 7108-11440 45 225 T312 C. KIRTBATI 289 109 7108-11440 45 225 T313 GANABA IS. 289 109 7108-1240 48 228 T313 GANABA IS. 289 109 7662-1233 45 225 T313 GANABA IS. 289 109 7662-1233 45 225 T5 SOMALIA 65 245 7432-12057 318 138 T7 SAN HARINO 57 237 4098-6595 301 121 T8 TUKKEY 30 230 2322-8405 313 133 T7 TIVKEY 30 230 2322-8405 313 133 T8 TUKKEY 30 230 222-8405 313 133 T8 TUKKEY 30 230 2322-8405 313 133 T8 TUKKEY 30 230 230 222-8405 313 133 T8 TUKKEY 30 230 230 222-8405 313 133 T1 COMBRIGA 221 24 2648-429 260 80 T1 COMBRIGA 221 24 2648-429 177 T1 COMBRIGA 222 22 6135-990 312 T1 COMBRIGA 222 22 6135-9973 312 132 TR COMBRIGA 222 22 6135-9973 312 132 TU TVORY COAST 99 279 6699-7561 312 132 TR COMBRIGA 32 223 4034-6492 300 120 T1 COMBRIGA 32 223 4034-699 309 129 T1 COMBRIGA 32 223 4034-699 309 312 132 T1 COMBRIGA 32 223 4034-699 309 309 129 T1 COMBRIGA 32 224							
STO SOUTH SUDDAN 77							
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VK         LORD HOWE I         268         88         9526-15331         60         240           VKO         HEARD I.         130         310         10663-17161         256         76           VKO         MACQUARIE I         229         49         9977-16056         91         271           VK9         COCOS-KEELING         20         200         10258-16509         345         165           VK9         COCOS-KEELING         20         200         10258-16509         345         165           VK9         COCCOS-KEELING         20         200         10258-16509         345         165           VK9         COCCOS-KEELING         20         200         10258-16509         345         165           VK9         CHRISTMAS I         3         183         10211-16434         358         178           VK9         MCRISTRAT         292         112         9350-15047         46         226           VP2         MONTSEIRAT         158         38         1872-3013         343         163           VP2M         MONTSEIRAT         158         338         1872-3013         343         163           VP2D         BRIT VIRG I. <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
VKO         MACQUARIE I         229         E9         9977-16056         91         271           VK9         COCOS-KEELING         20         200         10258-16509         345         165           VK9         CKRISTMAS I         3         183         10211-16434         358         178           VK9         MELLISH REEF         286         106         9131-14695         48         228           VK9         WILLIS I.         292         112         9350-15047         46         226           VK9         NORFOLK I.         265         85         8984-14459         58         238           VP2E         ANGUILLA         159         339         1747-2813         343         163           VP2W         MONTSERRAT         158         338         1872-3013         343         163           VP2W         BRIT VIRG I.         161         341         1713-2757         345         165           VP5         TURKS-CAICOS         177         357         1424-2291         358         178           VP8         S. SANDWICH I         156         336         7256-11677         327         147           VP8         S. SEETLAND I	VK	LORD HOWE I	268	8.8	9526-15331	60	240
VK9 COCOS-KEELING 20 200 10258-16509 345 165 VK9 CHRISTMAS I 3 183 10211-16434 358 178 VK9 MELLISH REEF 286 106 9131-14695 48 228 VK9 WILLIS I. 292 112 9350-15047 46 226 VK9 MILLIS I. 265 85 8984-14459 58 238 VP2E ANGULLLA 159 339 1747-2813 343 163 VP2M MONTSERRAT 158 338 1872-3013 343 163 VP2W BRIT VIRG I. 161 341 1713-2757 345 165 VP5 TURKS-CAICOS 177 357 1424-2291 358 178 VP8 S. SANDWICH I 156 336 7256-11677 327 147 VP8 S. ORKNEY I 167 347 7286-11725 339 159 VP8 S. SHETLAND I 174 354 7222-11623 350 170 VP8 S. GEORGIA I 159 339 6976-11227 334 154 VP8 FALKLAND I. 172 352 6514-10464 350 170 VP9 BERMUDA I. 144 324 816-1314 329 149 VP9 DERMUDA I. 144 324 816-1314 329 149 VP0 CHAGOS 54 234 9100-14645 323 143 VR6 PITCAIRN I. 230 50 5904-9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 185 VU INDIA 31 211 7721-12427 336 156 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 VU UNDIA 11 18 198 8573-13798 347 167 WO-W9 USA 267 87 1168-1880 72 2256							
VK9         CHRISTMAS I         3         183         10211-16434         358         178           VK9         MELLISH REEF         286         106         9131-14695         48         228           VK9         WILLIS I.         292         112         9350-15047         46         226           VK9         MORTOLK I.         265         85         8984-14459         58         238           VP2E         ANGUILLA         159         339         1747-2813         343         163           VP2W         MONTSERRAT         158         338         1872-3013         343         163           VP2V         BRIT VIRG I.         161         341         1713-2757         345         165           VP5         TURKS-CAICOS         177         357         1424-2291         358         178           VP8         S. SANDWICH I         156         336         7256-11677         327         147           VP8         S. SEETLAND I         174         354         7222-11623         350         170           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.		_					
VK9         MELLISH REEF         286         106         9131-14695         48         228           VK9         WILLIS I.         292         112         9350-15047         46         226           VK9         NORFOLK I.         265         85         8984-14459         58         238           VP2E         ANGUILLA         159         339         1747-2813         343         163           VP2W         BRIT VIRG I.         161         341         1713-2757         345         165           VP5         TURKS-CAICOS         177         357         1424-2291         358         178           VP8         S. SANDWICH I         156         336         7256-11677         327         147           VP8         S. SEETLAND I         174         347         7286-11725         339         159           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP8         FALKLAND I.         144         324         816-1314         329         149           VP9         BERMUDA I.							
VK9 WILLIS I. 292 112 9350-15047 46 226 VK9 NORFOLK I. 265 85 8984-14459 58 238 VP2E ANGUILLA 159 339 1747-2813 343 163 VP2M MONTSERRAT 158 338 1872-3013 343 163 VP2V BRIT VIRG I. 161 341 1713-2757 345 165 VP5 TURKS-CAICOS 177 357 1424-2291 358 178 VP8 S. SANDWICH I 156 336 7256-11677 327 147 VP8 S. ORKNEY I 167 347 7286-11725 339 159 VP8 S. SHETLAND I 174 354 7222-11623 350 170 VP8 S. GEORGIA I 159 339 6976-11227 334 154 VP8 FALKLAND I. 172 352 6514-10464 350 170 VP9 BERMUDA I. 144 324 816-1314 329 149 VQ9 CHAGOS 54 234 9100-14645 323 143 VR6 PITCAIRN I. 230 50 5904-9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 183 VU INDIA 31 211 7721-12427 336 156 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 VU ANDAMAN I. 18 198 8573-13798 347 167 MO-W9 USA 267 87 1168-1880 72 2256							
VK9 NORFOLK I. 265 85 8984-14459 58 238 VP2E ANGUILLA 159 339 1747-2813 343 163 VP2M MONTSERRAT 158 338 1872-3013 343 163 VP2V BRIT VIRG I. 161 341 1713-2757 345 165 VP5 TURKS-CAICOS 177 357 1424-2291 358 178 VP8 S.SANDWICH I 156 336 7256-11677 327 147 VP8 S.ORKNEY I 167 347 7256-11725 339 159 VP8 S.SHETLAND I 174 354 7222-11623 350 170 VP8 S.GEORGIA I 159 339 6976-11227 334 154 VP8 FALKLAND I. 172 352 6514-10484 350 170 VP9 BERMUDA I. 144 324 816-1314 329 149 VQ9 CHAGOS 54 234 9100-14645 323 143 VR6 PITCAIRN I. 230 50 5904-9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 105 VU INDIA 31 211 7721-12427 336 156 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 VU UND VSA 267 87 1168-1880 72 2525 XAA REVILLA GIG. 247 67 2752-4429 46							
VP2E         ANGUILLA         159         339         1747-2813         343         163           VP2M         MONTSERRAT         158         338         1872-3013         343         163           VP2V         BRIT VIRG I.         161         341         1713-2757         345         165           VP5         TURKS-CAICOS         177         357         1424-2291         358         178           VP8         S. SANDWICH I         156         336         7256-11677         327         147           VP8         S. ORKNEY I         167         347         7286-11725         339         159           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG							
VP2V         BRIT VIRG I.         161         341         1713-2757         345         165           VP5         TURRS-CAICOS         177         357         1424-2291         358         178           VP8         S. SANDWICH I         156         336         7256-11677         327         147           VP8         S. ORKNEY I         167         347         7286-11725         339         159           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         105           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40							
VP5         TURKS-CAICOS         177         357         1424-2291         358         178           VP8         S.SANDWICH I         156         336         7256-11677         327         147           VP8         S. ORKNEY I         167         347         7286-11725         339         159           VP8         S. SHETLAND I         174         354         7222-11623         350         170           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         185           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40		MONTSERRAT			1872- 3013	343	
VP8         S.SANDWICH I         156         336         7256-11677         327         147           VP8         S. ORKNEY I         167         347         7286-11725         339         159           VP8         S. SHETLAND I         174         354         7222-11623         350         170           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10464         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         183           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
VP8 S. ORKNEY I 167 347 7286-11725 339 159 VP8 S. SHETLAND I 174 354 7222-11623 350 170 VP8 S. SHETLAND I 159 339 6976-11227 334 154 VP8 S. GEORGIA I 159 339 6976-11227 334 154 VP8 FALKLAND I. 172 352 6514-10484 350 170 VP9 BERMUDA I. 144 324 816- 1314 329 149 VQ9 CHAGOS 54 234 9100-14645 323 143 VR6 PITCAIRN I. 230 50 5904- 9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 185 VU UNDIA 31 211 7721-12427 336 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 MO-W9 USA 267 87 1168- 1880 72 2526 KAN REVILLA GIG. 247 67 2752- 4429 46 2266							
VP8         S.SHETLAND I         174         354         7222-11623         350         170           VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         185           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168-1880         72         2525           MA         REVILLA GIG.         247							
VP8         S. GEORGIA I         159         339         6976-11227         334         154           VP8         FALKLAND I.         172         352         6514-10484         350         170           VP9         BERMUDA I.         144         324         816-1314         329         149           VO9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904-9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         185           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168-1880         72         2525           XAA         REVILLA GIG.         247         67         2752-4429         46         226							
VP8 FALKLAND I. 172 352 6514-10484 350 170 VP9 BERNUDA I. 144 324 816- 1314 329 149 VQ9 CHAGOS 54 234 9100-14645 323 VR6 PITCAIRN I. 230 50 5904- 9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 185 VU INDIA 31 211 7721-12427 336 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 WO-W9 USA 267 87 1168- 1880 72 2525 KR4 REVILLA GIG. 247 67 2752- 4429 46 2266							
VP9         BERMUDA I.         144         324         816- 1314         329         149           VQ9         CHAGOS         54         234         9100-14645         323         143           VR6         PITCAIRN I.         230         50         5904- 9502         39         219           VS6         HONG KONG         353         173         7976-12836         5         105           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168- 1880         72         252           MAN         REVILLA GIG.         247         67         2752- 4429         46         226							
VR6 PITCAIRN I. 230 50 5904-9502 39 219 VS6 HONG KONG 353 173 7976-12836 5 105 VU INDIA 31 211 7721-12427 336 156 VU LACCADIVE I. 40 220 8223-13234 331 151 VU ANDAMAN I. 18 198 8573-13798 347 167 WO-W9 USA 267 87 1168-1880 72 2525 KA4 REVILLA GIG. 247 67 2752-4429 46 226							
VS6         HONG KONG         353         173         7976-12836         5         183           VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168- 1880         72         252*           MAN         REVILLA GIG.         247         67         2752- 4429         46         226*	_						
VU         INDIA         31         211         7721-12427         336         156           VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168-1880         72         252           MAN         REVILLA GIG.         247         67         2752-4429         46         226							
VU         LACCADIVE I.         40         220         8223-13234         331         151           VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168-1880         72         2525           KAI         REVILLA GIG.         247         67         2752-4429         46         226							
VU         ANDAMAN I.         18         198         8573-13798         347         167           WO-W9         USA         267         87         1168- 1880         72         252 %           MAI         REVILLA GIG.         247         67         2752- 4429         46         226							
W0-W9 USA 267 87 1168- 1880 72 252 XA4 REVILLA GIG. 247 67 2752- 4429 46 226							
MAI REVILLA GIG. 247 67 2752-4429 46 226							
	Tans						

XE	MEXICO	233	53	2230- 3590	39	219
XT	BURKINA FASO	93	273	4622- 7439	311	131
ΧU	KAMPUCHEA	3	183	8622-13875	358	178
χv	VIETNAM	359	179	8417-13547	0	180
ЖW	LAOS	3	183	8276-13320	358	178
XX9	MACAO	354	174	7981-12844	5	185
XZ	BURMA	10	190	7962-12814	352	172
Y2	E. GERMANY	48	228	3825- 6157	296	116
YA	AFGHANISTAN	35	215	6587-10601	330	150
YB	INDONESIA	340	160	9754-15698	15	195
YI	IRAQ	49	229	5870- 9446	318	138
YJ	VANUATU	278	98	8502-13682	50	230
YK	SYRIA	51	231	5534- <b>#906</b>	315	135
YN	NICARAGUA	204	24	2144- 3450	18	198
YO	ROMANIA	49	229	4542- 7310	306	126
YS	EL SALVADOR	212	32	2118- 3409	24	204
YU	YUGOSLAVIA	54	234	4362- 7020	304	124
YV	VENEZUELA	169	349	2388- 3843	351	171
YV0	AVES I.	170	350	2100- 3380	353	173
Z2	ZIMBABWE	97	277	7760-12489	308	128
ZA	ALBANIA	56	236	4521- 7277	305	125
ZB2	GIBRALTAR	73	253	3529- 5679	299	119
ZC4	CYPRUS BASES	55	235	5288- 8511	312	132
ZD7	ST. HELENA	118	298	5822- 9369	317	137
ZD8	ASCENSION I	118	298	5050- 8127	319	139
ZD9	TRISTAN +	136	316	6711-10801	319	139
ZF	CAYMAN I.	199	19	1630- 2623	15	195
ZK1	N. COOK I.	262	82	6552-10545	48	228
ZK1	S. COOK I.	253	73	7050-11346	49	229
ZK2	NIUE I.	260	80	7459-12004	51	231
ZK3	TOKELAU I.	270	90	7114-11449	49	229
ZL	NEW ZEALAND	248	68	9081-14615	65	245
ZL7	CHATHAM I	240	60	8756-14091	64	244
ZL8	KERMADEC I	255	75	8316-13384	56	236
ZL9	AUCKLAND I+	235	55	9630-15498	80	260
ZP	PARAGUAY	161	341	4665- 7508	344	164
ZS	SOUTH AFRICA	107	287	7846-12627	307	127
ZS2	MARION IS.	121	301	9108-14659	291	111
ZS3	NAMIBIA	108	288	7241-11653	310	130
259	WALVIS BAY	109	289	7119-11458	310	130

#### **A Very Large Tower**

WRAL-TV/FM\WPTF-TV Tower Auburn Tower Project Joint Venture Auburn, North Carolina

Statistics about the 2000-foot-tall tower:

- 1) Designed for 82.5 MPH (EIA-222-E) or RS-222-C combined ice and wind load of 20 PSF with 1" radial ice under 300'; 25 PSF with 1.5" radial ice 300' to 650'; and 30 PSF with 2" radial ice above 650'.
  - 2) 12-foot triangular-face tower.
  - 3) Overall height = 2000 feet.
  - 4) Nine guy levels.
  - 5) Total tower weight = 723 tons (1,446,000 lbs.)
  - 6) Total weight of guy wires = 258.5 tons.
- 7) Added loads (lights, two-ways, ice sheilds, antennas, dishes, platforms, etc.) on tower = 156 tons.
  - 8) Total Weight Of the Tower = 1,137.5 tons = 2,275,000 lbs
  - 9) Total length of guy lines = 37,299 feet.
- 10) Total length of individual wires in guy lines = 5,428,820 feet.
  - 11) Largest guy wire = 3 3/4" with a capacity of 625 tons.
  - 12) 1000 square feet of outside platform space.
  - 13) Total volume of concrete in foundations = 600 cubic yards.
  - 14) Total weight of concrete in foundations = 1215 tons.
  - 15) Maximum load on center pier = 2584 tons.
- 16) Two-man Kline elevator; travel length 1769.5 feet.
- Elevator cable length = 3920 feet.
  - 17) Length of rigid transmission lines = 12,527 feet.
  - 18) Total individual pieces of steel = apx. 14,000.
  - 19) Total number of structural fasteners = apx. 45,000.

# Contest Operating By Roger Corey WIJYH

For thousands of years the minds of men have conceived laws and doctrines designed to govern the actions of their contemporaries, but like all human creations, the laws of man have been broken, the doctrines revoked, and the way of life which each generation believes demands new rules. Nature's laws alone remain unchanged. Thus the ant works, the grasshopper plays, and the tiny Lemming, driven by an unconquerable inner force, periodically rushes to the sea and self destruction. Thus too, thousands of amateurs, driven by a competitive spirit which Nature has decreed each of us must possess, rush periodically to the shacks to call "CQ Contest". While it is doubtful that anyone will ever take the trouble to make a Lemming's icy plunge more comfortable. we believe that an attempt to make amateur radio contest participation less painful would be a humanitarian effort worthy of the considerable effort.

If McCaulay's schoolboy were alive today he would be well acquainted with the fact that the greatest single factor in successful contest work, and the enjoyment thereof, is EXPERIENCE. He would also be aware that a great deal of needless effort may be expended in gaining experience if proper guidance is not available and that experience is a great teacher only when the student is aware of what he wants to learn. This article is written with the hope that it will aid the contest newcomer in gaining useful experience and provide the more experienced contest ham with a checklist with which he may sharpen his technique. We submit the following summary as the best means of fulfilling our objectives commensurate with our own limitations.

#### I Physical condition.

- 1. Start the contest well rested and in good health.
- 2. Don't overeat or depend on stimulants to keep going.
- 3. Make certain the operating position is as comfortable as possible.
- 4. During the contest, rest before getting overtired.

#### II Mental Condition

- 1. Set a goal. Either to win for your area or try for a certain number of contacts, score, or multipliers. If you reach your goal during the contest, set another a little higher.
- 2. Keep alert at all times. Every second of operating time should be devoted to attaining the goal.
- 3. Mental activity should be confined to planning the next contact. The one in progress should be automatic.
- 4. Forget everything except the contest. This is probably your one chance to stop worrying about loused up world events so make the most of it.

#### III Equipment

1. VFO, break-in, automatic QSO machines, and other

- fatigue reduction devices like noise limiters, RIT, etc are musts.
- 2. Bandswitching, single control tuning, or separate transmitters are highly desirable.
- 3. A direct reading 24 hour clock set to GMT is a must.
- 4. A clean signal with plenty of punch and good keying or limited bandwidth modulation will produce the greatest number of contacts.
- 5. Spare fuses connectors, etc should be kept on hand.

#### IV Operating

- 1. Thoroughly memorize all rules of the contest so that you can take advantage of all possibilities of increasing your score.
- 2. Determine the shortest possible transmission that can be made. Practice, if necessary, until it becomes mechanical and stick to it.
- 3. Send the information only once and repeat only if asked, and only the portion asked.
- 4. Spread operating time over as much of the contest period as possible, taking several short rests instead of one long one.
- 5. When calling another station in domestic contests, zero beat his frequency exactly with his carrier. In DX contests, listen carefully for calling instructions and follow them. Otherwise call him where you think he is listening. (Several local colleges now offer courses in extra sensory perception as applied to Dxing!)
- 6. Maintain a dupe sheet of stations already worked.
- 7. Learn to listen to several other stations while copying one, thus when the contact is completed an instant decision can be made whether to call CQ or to call another station.
- 8. Notice what the others are doing. For example, if you hear KA1ZE say "Thanks for the new section!" near the end of the contest, the chances are it'll be new for you, too, so stick around.
- 9. Take pains to make your sending readable. A moderate, steady speed will produce more results than fast erratic sending. On voice, clarity of enunciation is more important than speaking rapidly. Use the ARRL phonetic alphabet, don't invent your own "cute" phonetics.
- 10. Never give UP! The last five minutes of the contest could bring in five new multipliers.

To summarize, the contest operator must be in top physical condition, be mentally alert, strive for peak efficiency in operating, and have a quiet, cooperative family. If, after conscientious application of all of the above, and after at least two years of contest operating, you still can not produce a winning score, the writer will, upon receipt of three worn bug paddles, furnish an engraved, black-edged certificate of sympathy and an assortment of Mickey Finn recipes to feed the competition at pre-contest gatherings.

From ARRL 1952 N.E. Division Convention, hosted by the HCRA (Some editing by J.J. Duquette, K1BE)

# Connecticut Valley and the VHF SS!

#### By Ed Tilton W1HDQ

As you may know, I came to be associated with the ARRL and QST initially because K.B. Warner told me, "Everytime I listen on 5 meters I hear you there!" He paid me two personal visits in 1939, just "to see where all the noise comes from." Out of those visits came an invitation to produce a monthly "UHF" column in QST. The first one, called "On the Ultra Highs" appeared in QST for December, 1939. I have been in every issue of QST since, in one way or another.

I worked for F.W. Sickles Co. until I left to take a job as a radar field engineer for Raytheon, 1943 to 1945, intending to return there after the war. But KBW offered me a fulltime job with the ARRL, so I never went back to Sickles, as I had intended.

Warner wanted to do everything he could to build ham interest in the "ultra Highs". I used to go down to West Hartford to talk with him frequently about the future of amateur radio on the higher frequencies. He was worried that we could lose HF privileges, perhaps fairly soon, unless the ARRL could show that hams were good for the future of radio as a whole. His mind was always looking far ahead, searching out problems and solutions before most people were even aware that problems existed.

Ed Handy also gave me a lot of his time. He wanted to see VHF grow, too. Both he and Warner feared possible loss of HF and they wanted to see a large body of hams ready to take such an event in stride. Between the two, I got a whole new vision of the future of ham radio, and my place in it.

Ed Handy's feeling was that "contests" having been growing in popularity in the 1930's, should be devised to include the VHF bands. We talked a lot about

this and several possible adaptations of the contest idea were discussed at considerable length, both before and after World War II.

We experimented with many contest forms over the early years, eventually going to the three per year format still in use. I felt that something as much like the more popular HF activities could develop for what had become VHF after the war. The VHF Sweepstakes, with its message-style exchange, copied the popular HF sweepstakes. It caught on at once, and was very popular, right from the start.

Our flaw in the picture was that operators and clubs in the big city areas of the East always seemed to win.

I had an idea to help boost participation in the VHF SS in the Connecticut Valley area. I was active in the Hartford County ARA, and knew everyone in the Hampden County Radio Club too. So I proposed a local competition between the two valley clubs. They were similar in size, and there was much to be gained in improving the use of VHF in the valley. Basically the proposition was that both clubs would compete in the January VHF Sweepstakes. The winning club would be the guests of the losers, at a joint dinner, at a place selected by the host club. It was on a Dutch treat basis, but with the losers making all the arrangements. I don't recall for how many years this arrangement lasted, but it did make for a lot of good times, and friendly competition. I can't recall why it was stopped, but it was too good of a thing to lose, it seems to me.

Looking at the early statistics, it did a lot for local VHF activity. The first five years the HCRA has (2) 3rds, (2) 4ths, and (1) 5th place finish. And that had a lot to do with the local club competition!

Reprinted from Zero Beat, April 1986 Note: Ed now resides in Florida, and lucky club members can work him during the contest on 6 meters. He is also an honorary Lifetime member of the club, one of two left. Art Zavarella, W1KK is the other member honored by the club in this way. Art has the trophies won during the interclub competition! (Percy Noble, W1BVR was also a Lifetime member, now he is a Silent Key.)

#### PAST VHF SS SCORES:

PASI	ΛИС 22	SCOKES:
Yr	Score	Place
1951		HT8
1952		11TH
1953		5TH
1954		5TH
1955		4TH
1956		4TH
1957	45,015	4TH
1958	195,501	3RD
1959	76,941	6TH
1960	33,917	15TH
1961	19,841	24TH
1962	33,564	4TH
1963	20,252	28TH
1964		
1965	37,760	14TH
1966	47,730	9TH
1967	58,841	9TH
1968	42,796	6TH
1969	67,994	6TH
1970	105,736	5TH
1971	123,898	4TH
1972	57,336	8TH
1973		
1974	16,838	9 <b>TH</b>
1975	3,394	7TH
1976	42,771	8TH
1977	31,570	8TH
1978	13,358	15TH
NEW S	CORING SYS	TEM
1979	93,570	5TH
1980	142,566	3RD
1981	213,746	2ND
1982	282,094	FIRST
1983	280,576	FIRST
1984	132,969	3RD
1985	192,556	3RD
1986	263,089	3RD
1987	Missing -	
1988	Help m	
1989	I Lost	
1990	329,589	3RD

#### VHF Sweepstakes

It's that time of year again! Snow appears and the temperature drops. It's time to get the VHF gear out and tuned up for the biggest and the best VHF Sweeps ever! Many HCRA members have spent many long hours preparing for this contest. Club station W1NY will be on again and you can work them and get a special QSL card for every band.

For those to whom this is all new - You operate any VHF or UHF band, or as many as you own radios for. You can work a station once per band, regardless of mode. Multipliers are how many different grid squares you work. (including the one you're in!) Grid squares are world wide squares, 2 degrees by 1 degree, with two letters followed by two number designations, and everyone has one. Collecting them qualifies you for awards. The attached map helps to show some of the grids in the U.S. Most of Western Mass is FN32. The exchange is your callsign and grid square.

The Hampden County Radio Association has been active in this contest from its very inception over 44 years ago! The contest efforts this year may set a new club record, IF every member pitches in. Some are hesitant to send in a log for only 100 points, feeling its "too small". Well, one year the club missed breaking 100,000 by 10 points!

The more bands you can work the higher your score! It increases algebraically (almost). If you work stations like KAIZE, WINY, NIDPM, ACIT, KIBE, and NQIC, the QSO can be worth 5 to 10,000 points to the club aggregate score!

#### January 19th & 20th, 1991



HCRA CONTEST EFFORTS!!!

If you have extra gear you wouldn't mind loaning out, bring it to the January meeting. That old crystal transceiver sitting in the closet would be fun for a new technician to operate!

Logs, maps, and summary sheets are included in this issue. Make sure you send in your entry. We'll be glad to fill it out for you if you're intimidated by the forms. Rumors that the club will again sponsor some kind of a special award for the contest may be true. But you won't be eligible unless you participate!

FN 23	FN 33	VT	/ FN 33	FN 43	
FN 22			FN 32	FN 42	
NY FN 22	FN 32	©Pittsfield  Westfield	# Greenfield  #Northampton  Springfield	MASS  Worcester  FN 42	0
FN 21	FN 31		FN 31	FN 41 RI	

#### VHF Propagation By

Jeffrey J. Duquette K1BE

These people are desperate! The contest is winding down and they haven't made I million points! You're the man of the hour! (Ham-of-the-hour?) With your ten watt rig feeding a coat hanger on the kitchen table, you can work all of the high power distant stations. How, you might ask? Desperate times call for desperate measures! They'll strain their ears to pull your signal out of the muck. How far can your signals really go?

This depend on various factors. Single sideband, CW, and FM signals propagate many different ways on VHF/UHF bands. When you see the weather map in the morning paper, check to see if a warm air mass is overrunning a cold air mass. Then you can expect tropospheric bending of your signal which will come down who knows where! This weather inversion causes DX to open to incredible distances. Aim your antenna along the trailing edge and expect to hear stations in a wide coverage area.

Sporadic E skip occurs when intense patches of ionization occur. Solar flares produce these and can be very strong. Listen to W1AW and WWV for the solar index or news of a solar flare. Or if you start to hear stations in California on two meters, suspect sporadic E! F layer openings can also be spectacular, and maybe one will occur during the VHF contest. I remember one year when Ohio stations came in like gangbusters for 20 minutes!

If Donald Duck suddenly seems to be working you on SSB, or the CW has a strange fluttery sound, you're most likely bouncing your signals off of an aurora. Look out the window for the Northern lights, or Aurora Borealis! You don't need to be a high power, super-station like KA1ZE to work Washington state from Massachusetts. Once you hear auroral propagation, you won't forget it. Try pointing those antennas North at night!

Transequitorial propagation occurs along the North/South line of the sun. You can work South American stations on six meters. Tropospheric scatter on two meter CW can go over 500 miles. Signals tend to be weak and fluttery, but what some people won't do for another multiplier! Meteor scatter is beyond the ken of most of us, but some of the club members will be suing it. EME, or bouncing your signals off the moon, is being used more and more. W1NY uses it very successfully.

Beam antennas work best, but don't sit out the VHF Sweepstakes just because you feel you don't have a "good" station. Every year many hams rack up over 1,000 points using a rubber duck, 1 watt, and simplex FM frequencies!

Keep in mind the contesters want you, and you're doing them a favor. The club score goes up for every station you work, due to the multipliers. The contesters, big and small, have the gear to work you, so get out there and do it!

Reprinted from January 1985 Zero Beat

#### Attention All Radio Amateurs!

The 44th ARRL January VHF Sweepstakes will take place starting on Saturday 19, at 2:00 pm EST and ending Sunday, January 20th, at 11:00 pm EST. There will be considerable club activity. Please participate! Even a few contacts on FM will go a long way towards helping others boost their scores. Every club member should keep a log and send it into the ARRL. Every point matters! The exchange is very simple, just your grid square with other stations. For example, Western Mass is FN32, CT is FN31. It's that easy! It's lots of fun! Pass the word to other club members! CQ Contest!

### January 1991 VHF Contest

	Activity	Hours	(EST)
Start	End	Day	Event
2:00 pm		Sat	Contest Starts
2:00 pm	7:00 pm	Sat	All bands active
7:00 pm	8:00 pm	Sat	Local FM activity
8:00 pm	9:00 pm	Sat	220 Mhz national activity hour
9:00 pm	10:00 pm	Sat	432 Mhz national activity hour
10:00 pm	11:00 pm	Sat	1296Mhz national activity hour
11:00 pm	12:00 am	Sat	903 Mhz national activity hour
6:00 am	7:00 am	Sun	6 meter activity hour
7:00 am	8:00 am	Sun	Local FM activity hour
8:00 am	9:00 am	Sun	220
9:00 am	10:00 am	Sun	432
10:00 am	11:00 am	Sun	1296
11:00 am	12:00 Noon	Sun	903
12:00 Nooi	-	1:00 pm	Sun 6 meter
1:00 pm	2:00 pm	Sun	Local FM
2:00 pm	3:00 pm	Sun	220
3:00 pm	4:00 pm	Sun	432
4:00 pm	5:00 pm	Sun	1296
6:00 pm	7:00 pm	Sun	6 meter
7:00 pm	8:00 pm	Sun	Local FM
8:00 pm	9:00 pm	Sun	220
9:00	10:00 pm	Sun	432
10:00 pm	11:00 pm	Sun	1296
	11:00 pm	Sun	Contest Ends!

The activity hours listed above are a big help for those who have a limited number of hours available to participate in the contest. By getting on at the same times, you're more likely to work everyone.

#### TidBits

This is the TidBit column, which will be run monthly. In it you will find tidbits about local amateur radio happenings, as well as general tidbits about amateur radio. What will make this column work? YOU! I cannot know every tidbit there is to know about amateur radio, so I rely upon you to tell me about them. No, you don't have to write a whole article — just a sentence or two about something interesting that has happened or will happen. If you're not sure that your tidbit is the right type of information, give it to me anyway! It's better to get too much than too little.

So here we go...

- Rusty, NM1K, has been appointed NARL (Newington Amateur Radio League) "Ham of the Year". Rusty has helped over 200 hams obtain their licences.
- Bob, NQ1C, was in Florida to see the launch of STS-35, the shuttle mission carrying amateur radio. The launch was quite spectacular.

#### **VE Exams**

Exams are sponsored by the HCRA on the first Wednesday of each month at 7:00PM sharp at the Agawam High School. VE's are also needed. If you are interested in taking an exam or helping give exams, please contact Jeanette WC1O at 786-1463.

There will be no VE exam in January.

### **HCRA** Meetings

First Friday of each month at
Feeding Hills Congregational Church
Center of Feeding Hills
Intersection of routes 57 & 187
Doors open at 7:30 PM
Meeting starts promptly at 8:00 PM

Next Meeting
January 4th, 1991 8:00pm
Feeding Hills Congregational Church
Jeff Duquette, K1BE
Setting Up A Contest Station

Hampden County Radio Association, Inc. P O Box 482
West Springfield MA 01090-0482
Editor: Bob Lafleur, NQ1C

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